

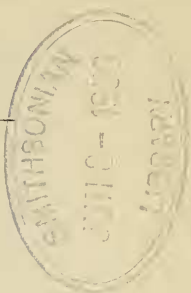
PROCEEDINGS
OF THE
BIOLOGICAL SOCIETY OF WASHINGTON

DISTINCTION OF MARITIME AND PRAIRIE
POPULATIONS OF BLUE-WINGED TEAL

BY ROBERT E. STEWART AND JOHN W. ALDRICH
*Fish and Wildlife Service, Laurel, Maryland
and Washington, D. C.*

In the course of waterfowl food habits investigations by the senior author, a number of breeding specimens of Blue-winged Teal, *Anas discors*, were collected in the Chesapeake Bay marshes. Routine comparison of these with breeding specimens from the West showed a marked difference in the color of the two series. The eastern birds stood out as being much darker. All breeding specimens in the National collections were then assembled and additional material borrowed from other museums. For courteous cooperation in this connection we are indebted to officials of: Museum of Comparative Zoology, Cambridge; Royal Ontario Museum of Zoology, Toronto; Museum of Zoology, University of Michigan; American Museum of Natural History, New York; Carnegie Museum, Pittsburgh; and Chicago Natural History Museum.

Only specimens collected between May 25 and July 31 were used in the comparisons in order to be reasonably sure that no migrants would be included. In sorting the breeding specimens it becomes apparent that the extremely dark birds are all from the Atlantic seaboard, but that some specimens from the far north approach them in color. In fact two examples from James Bay, Ontario, in the Carnegie Museum collection are almost as dark as the Maryland extremes. A male specimen in the Fish and Wildlife Service collection from Egg Lake, Athabaska Delta, Alberta, approaches the eastern type, but two females in the same collection from Main Branch of Athabaska Delta, Alberta, are typical western birds. A female specimen in the Chicago Natural History Museum collection, taken at Many Island Lake in southeastern Alberta, is darker than most prairie specimens of the western race but is not as dark as typical eastern birds. A female specimen in the University of Michigan collection from North Manitou, Leelanau County, Michigan, is darker than most western birds but not as dark as typical eastern examples from the Atlantic coast. Two male specimens in the Royal Ontario Museum of Zoology, taken at The Pas, Manitoba, are intermediate between eastern and western forms; the one taken at Root Lake is closer to the eastern form and the one from Brook, nearer the western. Although these few specimens from the vicinity of the northern Great Lakes in Michigan and portions of the Prairie Provinces of



Canada show a tendency to darkness that might be considered as indicating intermediacy between dark and light populations, the large majority of specimens of both sexes from localities west and south of these points are light colored, and those from the natural grassland and desert areas of the Great Plains and Great Basin are almost without exception very much paler than the Atlantic seaboard series.

"Migrant" specimens (those collected between August 1 and May 24) were grouped on the basis of whether they were more closely identifiable with the Atlantic coast or the prairie breeding series. The great majority of these from all parts of the range are of the pale, prairie coloration. However, dark birds referable to the Maritime populations can be found scattered among migrant specimens from a wide range, extending from Montana and Texas to the Atlantic coast and south to South America.

It is concluded on the basis of marked color differences and apparent geographical segregation during the breeding season that two recognizable races of blue-winged teal exist which are sufficiently distinct to warrant application of different subspecific names. Two questions immediately present themselves: What names have already been proposed for this species; and to which of the two races do they apply?

The name *Anas discors* Linnaeus has been restricted by the Committee on Classification and Nomenclature of the American Ornithologist's Union (1931:48) as referring to the blue-winged teal found in South Carolina. This is based on the conclusion that Linnaeus (1766:205) was influenced in his description of this species primarily by Catesby's (1731:100) description of the "white-faced teal," and that Catesby's experience with this species was most likely in South Carolina. As far as we know this species does not breed in South Carolina so Catesby's experience must have been with migrant birds. Review of all migrant specimens at our disposal disclosed two from South Carolina, both of which are of the pale, prairie type. In fact most of the migrant specimens seen from the Atlantic seaboard are of this form. It is well known that the prairie populations are very much higher than those of the Atlantic seaboard and the northern fringe of the range; also that these prairie birds migrate largely in a southeasterly direction through the southern Atlantic states (Stoudt, 1949:91). Furthermore, field observations and collecting indicate that at least part of the dark, coastal breeding population (that of Dorchester County, Maryland) is largely permanently resident. Thus it seems far more likely that Catesby had a migrant example of the interior breeding population in hand when he described and figured his "white faced teal." If any weight can be attached to the plate itself it may be stated that it does suggest the light-colored western birds. For these reasons the name *Anas discors* is still further restricted to the pale-colored population which breeds in the western prairie, plains and basin country of western North America, and migrates through South Carolina and other southern Atlantic states on its way to and from the West Indies and South America.

The next problem to be disposed of is the application of the name *Querquedula discors albinucha* Kennard (1919:459) which was originally applied to birds with excessive amounts of white on the head, collected in southern Louisiana marshes. In the first place it was verified from evidence presented by numerous specimens, representing all

parts of the range of the species, that the extension of white on the head above the eye and to the nape of the neck has no geographic significance. This has been pointed out by Arthur (1920:127) and subsequent writers. The specimens, including the type, on which the description of *albinucha* is based, are all from Cameron Parish, Louisiana. The species is said to breed in Cameron Parish as well as elsewhere in Louisiana (Oberholser, 1938:117). Whether or not any of the type series were actually breeding birds cannot be determined from the dates or other information given by Kennard (1919) in the original description. The type specimen itself, collected as early as April 2, is certainly doubtful in this respect. Of the type series borrowed from the Museum of Comparative Zoology, May 18 was the latest date of collection and this is outside of safe limits for considering birds as definitely breeding. Of the type series of 10 specimens, only one, a male taken May 6, 1919, in Cameron Parish, Louisiana, seems to fall within the range of coloration of the dark eastern form. The remainder (including the type, kindly made available to us by Mr. James Greenway of the Museum of Comparative Zoology) were of the pale western coloration. Thus, *Querquedula discors albinucha* Kennard is a synonym of *Anas discors* Linnaeus.

A search of the literature fails to reveal any other name which has been used for this species. Thus the dark eastern and northern population seems to be without a name, and we therefore name and characterize it as follows:

Anas discors orphna, subsp. nov.

Atlantic Blue-winged Teal

Subspecific characters.—Similar to *Anas discors discors* of the interior grassland and desert regions of North America but (in male) upper parts darker, black areas of feathers of back, rump, upper tail coverts, and upper surfaces of rectrices and primaries more intensely black; head and neck darker gray; crown, chin and border of white crescent more intensely black (less brownish); under parts darker, black spots and barring deeper black (less brownish); reddish brown markings deeper in tone; under tail coverts more intensely black; under surface of rectrices and primaries darker (less silvery) gray. In females: Upper parts darker, especially crown on which light edgings tend to be absent; dark areas of crown, back of neck, back, upper tail coverts, rectrices and primaries more intensely black (less brownish); under parts somewhat darker with dark areas of plumage more intensely black.

Measurements.—Adult male (8 breeding specimens): Wing (chord of unstraightened wing), 180-193 (Average, 186.06 mm.); tail 61-69.5 (66.44); exposed culmen, 35-43.5 (41.06); tarsus, 30.5-34.5 (32.12); middle toe without claw, 34.5-39 (37.00). Adult female (3 breeding specimens): Wing, 168.5-180 (173.16); tail, 59.5-65.5 (63.33); exposed culmen, 39-41.5 (40.00); tarsus, 30.5-33 (31.5); middle toe without claw, 33-36.5 (34.5).

There appears to be no consistent size difference in these two races since average measurements of the male of *orphna* are larger and the female smaller in most characters than *discors*. Measurements of *discors* are given here for comparison. Adult male (25 breeding specimens): Wing, 173-193 (181.88 mm.); tail 59.5-71.5 (64.56); exposed culmen

32.5-42 (39.86); tarsus, 30-35 (32.22); middle toe without claw, 31-38 (35.22). Adult female (15 breeding specimens): Wing, 167-183 (174.53); tail, 59.5-70 (64.03); exposed culmen, 37-40 (38.87); tarsus 30-33 (31.43); middle toe without claw, 30.5-36 (34.13).

Type specimen.—No. 458061 U. S. National Museum (Fish and Wildlife Service Collection); adult ♂; collected at Elliott, Dorchester County, Maryland, June 9, 1954, by R. E. Stewart and W. R. Nicholson.

Geographic distribution.—Breeds in salt or brackish tidal marshes along Atlantic seaboard from northeastern North Carolina (Pea Island, *fide* R. E. Griffith), north to northeastern Massachusetts (Newburyport); also breeds in New Brunswick, Nova Scotia and Prince Edward Island (*fide* C. E. Addy); and occurs during the breeding season at Nattabisha Point and Moose Factory, Ontario (specimens in Carnegie Museum).

Integrates with *discors* in the Great Lakes region and in central Canada. At least as far west as western Manitoba and northeastern Alberta some influence is noted. Apparently the center of abundance of the breeding population is in the brackish tidal marshes of New Jersey, Delaware and Maryland, particularly in the Chesapeake Bay marshes of Dorchester County, Maryland and in the Delaware Bay marshes of Delaware and New Jersey.

Migrates southward to the West Indies and South America. At least part of the middle Atlantic coastal population seems to be permanently resident.

Habitat.—During the breeding season in Maryland, Delaware and New Jersey, this form is largely restricted to brackish tidal marshes in which salt-meadow grass (*Spartina patens*) is prevalent. In life form this type is similar to the fresh marsh-meadows in which breeding birds of the interior race are found.

Specimens identified.—*Anas discors orphna*. CANADA: Ontario—Moose Factory, May 19, 1930; Nattabisha Point, James Bay, June 26, 1912 (2). COLOMBIA: Cali, March 25, 1949. CUBA: Las Villas, Laguna Guanaroca, March 10, 1948. UNITED STATES: Florida—Immokalee, April 12, 1919; Lake Harney, March 21, 1896. Louisiana—Cameron, May 6, 1919. Maryland—Blackwater Refuge, May 22, 1931; Elliott, June 8, (4) and June 9, 1954 (4), January 4, 1955; Oxen Hill, April 16, 1934. Massachusetts—Cambridge, June 8, 1868. Michigan—Beaver Island, May 23, 1932; Grand Rapids, September 1, 1891. Mississippi—Bay St. Louis, April 14, 1902 (2). Montana—Jordan, May 8, 1916. New Jersey—Princeton Texas—Henrietta, April 19, 1894. Virginia—Nelson County, April 11, 1902 (2).

Anas discors discors. CANADA: Alberta—Driedmeat Lake, June 6, 1945; Egg Lake, Athabaska Delta, July 3, 1920; Hay Lakes, June 8, 1945; Main Branch, Athabaska Delta, June 14, 1920, June 20, 1920; Many Island Lake, June 9, 1906; Tofield, Beaverhill Lake, May 20, 1922 (3), May 22, 1923. Manitoba—Brook near The Pas, June 9, 1945; Deer Lodge, May 10, 1930; Gypsumville, May 30, 1931; Lake St. Martin, May 21, 1934 (2); Lake Winnipegosis, June 5, 1913; Root Lake near The Pas, June 9, 1945; Sandy Bay, Lake Manitoba, June 19, 1895. Northwest Territories—Fort Resolution, Great Slave Lake, June 8, 1873, June 8, Ontario—Ashbridges Bay, Toronto, May 15, 1894; Hallowell, Prince Edward County, June 14, 1930; Keewatin, June 3, 1949;

Lake Ira, Bruce County, June 11, 1934; Syne Cartier, Wallaceburg, May 17, 1881; Turkey Point, Norfolk County, May 23, 1933 (2). Saskatchewan—Bigstiek Lake, June 26, 1907; Davidson, May 18, 1932; Maple Creek, July 3, 1906; Last Mountain Lake, June 13, 1932; Stalwart, June 16, 1932 (2); Whitemud—East End, May 21, 1939. COLOMBIA: Navarro, Feb. 24, 1949. MEXICO: Coahuila, Sept. 10, 1936. Michoacan—Huingo, July 17, 1904. Baja California—Gardiner's Laguna, Salton River, Apr. 21, 1894; San Jose, Feb., 1860 (2); Santo Lazaro Mts., Jan., 1860. Neuvo Leon, May 1853. Veracruz—Rivera, Apr. 12, 1904, Apr. 27, 1904. Tamaulipas—San Jose, Feb. 19, 1939; Sacutula Run, May 1863. GUATEMALA: Buenas, November 1861. UNITED STATES: Arizona—Big Lake, Apache Co., Aug. 4, 1914; Marsh Lake, June 14, 1915; Tucson, May 5, 1881. California—Dominquez Rancho, Sept. 14, 1915. Colorado—Clear Creek, May 23, 1873; Mill City, May 10, 1877. Delaware—Fowler's Beach, Apr. 29, 1932. District of Columbia—Potomac River, Apr. 1, 1899. Florida—Indian River, May 13, 1886; Lake Harney, Mar. 21, 1896; Lake Kissimmee, Mar. 22, 1901; St. Marks Light Station, Apr. 3, 1924; Wilson, Apr. 11, 1923. Illinois—Mt. Carmel, Apr. 16, 1874, May 10, 1878. Indiana—Wheatland, May 14, 1885. Iowa—New Sharon, Mar. 20, 1892; Chariton, May 12, 1872. Kansas—Lawrence, Oct. 14, 1905, Oct. 14, 1906. Louisiana—Belle Isle, Mar. 2, 1910; Cameron, April 2, May 6, 7 (2), May 8, May 9 (2), May 10 (2), May 11 and May 18, 1917; Morgan City, May 22, 1925. Maryland—Patuxent River (Marlboro), Sept. 10, 1937; Susquehanna Flats, Sept. 13, 1894. Massachusetts—Orleans, Apr. 5, 1894. Michigan—Beaver Island, May 23, 1932; Fish Point, Tuscola Co., June 15, 1926; North Manitou, Leelanau Co., June 19, 1940; Saginaw Co., May 16, 1934 (2). Minnesota—Fort Snelling, May 10, 1890, May 21, 1890, June 15, 1890. Mississippi—Bay St. Louis, Sept. 7, 1896, Oct. 12, 1901; Biloxi, Apr. 10, 1937 (2), Sept. 27, 1939. Missouri—, May 1856; Charleston, May 4, 1879 (2). Montana—Baker, May 24, 1916; Custer Co., May 25, 1886; Jordan, May 8, 1916; Lake Bowdoin, Oct. 7, 1915 (2); Lismas, June 24, 1919. Nebraska—Hackberry Lake, Cherry Co., July 10, 1933. Nevada—Blair, Sept. 23, 1915, Sept. 27, 1915 (2). New Mexico—Carrizozo, June 3, 1938; Las Cruces, May 20, 1920 (2); Riley, Sept. 25, 1905; Rio Arriba Co., July 30, 1913; Santa Rosa, Oct. 1, 1902. New York—Good Grounds, Long Island, May 5, 1882 (2). North Carolina—Asheville, Apr. 21, 1934; Bodie Island, May 1, 1905; Pisgah National Forest, Apr. 10, 1930; Portsmouth, Dec. 24, 1917. North Dakota—Blackmer, June 2, 1915; Grafton, May 16, 1930 (2); Lac aux Morts, Apr. 30, 1901, May 24, 1901, June 13, 1901, July 12, 1901; Lostwood, Aug. 17, 1915; Rocklake, May 6, 1895, May 7, 1895, May 27, 1895; Sweetwater Lake, May 19, 1902; Townner Co., May 16, 1890, May 12, 1895, May 25, 1895 (2); Upham, McHenry Co., Nov. 20, 1937. Oklahoma—Mt. Scott Post Office, Apr. 14, 1904. Oregon—Klamath Falls, Apr. 19, 1924. South Carolina—Santee Club, Dec. 20, 1909 (2), Dec. 22, 1909. South Dakota—Custer Co., May 2, 1922; Harrison, May 13, 1888, May 28, 1888, May 4, 1891. Tennessee—Reelfoot Lake, Sept. 6, 1937. Texas—Fort Stockton, Apr. 18, 1860; Ingram, June 5, 1915. Utah—Bear River, Aug. 28, 1914, Sept. 12, 1914, June 21, 1915, Oct. 16, 1916; Jensen, May 1, 1935. Virginia—Four Mile Run, Sept. 18, 1893 (2); Gainesville, Mar. 31, 1904; New River, Sept.

23, 1939; Shenandoah National Park, Oct. 12, 1949. Wisconsin—Delavan, Oct. 6, 1908, Oct. 11, 1908, Nov. 7, 1908, Sept. 24, 1913; Viroqua, Vernon Co., Sept. 8, 1913. Wyoming—Douglas, May 2, 1891, May 2, 1894; Laramie, VENEZUELA: Cantaura, Oct. 5, 1947. CUBA: Guantanamo, Dec. 1910 (2); Pinar del Rio, Feb. 23, 1900 (2); HAITI: Etang Sumatre, Apr. 10, 1920 (2); Apr. 13, 1920; Las Basses, Jan. 9, 1918. JAMAICA: Great Salt Pond, Oct. 13, 1863; Spanishtown, Mar. 1863, Oct. 10, 1863 (2), and one with date unknown. LEEWARD ISLANDS: Montserrat, Foxes Bay, Sept. 18, 1937. VIRGIN ISLANDS: St. Croix, South Gate Pond, Nov. 10, 1934.

REFERENCES

- American Ornithologist's Union, Committee on Classification and Nomenclature, 1931—Check-List of North American Birds (4th ed.), Lancaster, Pa. xix, 526 pp.
- Arthur, S. C., 1920—A note on the southern teal. *Auk* 37:126-127. 1920
- Catesby, M., 1731—Natural History of Carolina, Florida and the Bahama Islands. London 1: i-xii, 100 pp.
- Kennard, F. H., 1919—Notes on a new subspecies of Blue-winged Teal. *Auk* 36:455-460.
- Linnaeus, C., 1766—Systema Naturae (12th ed.), 1:532 pp. 1766
- Oberholser, H. C., 1938—The Bird Life of Louisiana. Louisiana Department of Conservation Bull. 28: xii, 834 pp.
- 1938 of Conservation Bull. 28: xii, 834 pp.
- Stoudt, J. H., 1949—Migration of the Blue-winged Teal. Fish and Wildlife Service. Spec. Sci. Report, (Wildlife), 1:19-20.